

RESPONSE TO RESTRICTION AND ELECTION REQUIREMENT AND SUPPLEMENTAL  
PRELIMINARY AMENDMENT

Appln. No. 09/756,874

Docket No. Q62541

a pair of a first substrate and a second substrate, each of which is transparent and is separately arranged so as to have a predetermined distance between each other;

a transparent electrode arranged on the first substrate;

a switching element arranged on the second substrate;

an insulation film which is arranged on the second substrate in a continuous face shape and arranged on an upper part of the switching element so as to protect the switching element by overlaying the same, and has a convex/concave structure on a surface facing the first substrate;

a reflection electrode which is arranged on the insulation film and a surface of which, facing the first substrate, has a shape reflecting the convex/concave structure of the insulation film; and

a liquid crystal layer filled in a space between the transparent electrode of the first substrate and the reflection electrode of the second substrate.

17. (New) The LCD apparatus as claimed in Claim 16, wherein the insulation film is a single layer structure and has the convex/concave structure formed as a part of the surface, facing the first substrate, of the insulation film.

18. (New) The LCD apparatus as claimed in Claim 17, wherein a protrusion of the convex/concave structure is a continuous smooth shape.

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19. (New) The LCD apparatus as claimed in Claim 17, wherein the insulation film has a light absorption characteristic.

20. (New) The LCD apparatus as claimed in Claim 17, wherein a plurality of protrusions of the convex/concave structure and a plurality of indentations indented downward from the protrusions are arranged irregularly.

21. (New) The LCD apparatus as claimed in Claim 20, wherein the protrusions have a pattern of an island-shape or a line shape.

22. (New) The LCD apparatus as claimed in Claim 20, wherein the indentations have a pattern of a hole shape or a line shape.

23. (New) The LCD apparatus as claimed in Claim 20, wherein the convex/concave structure is formed by an irregular arrangement of the convex/concave shape based on one pixel or more than one pixels as a unit.

24. (New) The LCD apparatus as claimed in Claim 17, wherein the insulation film is made from an organic resin or inorganic resin having photosensitivity.

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25. (New) The LCD apparatus as claimed in Claim 16, wherein the insulation film is a single layer structure and has the convex/concave structure formed separately on the surface, facing the first substrate, of the insulation film.

26. (New) The LCD apparatus as claimed in Claim 25, wherein the insulation film has a light absorption characteristic.

27. (New) The LCD apparatus as claimed in Claim 25, wherein a plurality of protrusions of the convex/concave structure and a plurality of indentations indented downward from the protrusions are arranged irregularly.

28. (New) The LCD apparatus as claimed in Claim 25, wherein the protrusions have a pattern of an island shape or a line shape.

29. (New) The LCD apparatus as claimed in Claim 25, wherein the indentations have a pattern of a hole shape or a line shape.

30. (New) The LCD apparatus as claimed in Claim 25, wherein the convex/concave structure is formed by an irregular arrangement of the convex/concave shape based on one pixel or more than one pixels as a unit.

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31. (New) The LCD apparatus as claimed in Claim 25, wherein the insulation film is made from an organic resin or inorganic resin having photosensitivity.

32. (New) The LCD apparatus as claimed in Claim 25, wherein the insulation film is formed of a transparent photosensitive material where a back light is able to pass through.

33. (New) An LCD apparatus production method comprising the steps of:  
among a pair of a first substrate and a second substrate, each of which is transparent and is separately arranged so as to have a predetermined distance between each other, forming a transparent electrode on the first substrate;  
forming a switching element on the second substrate;  
on the second substrate, forming an insulation film on an upper part of the switching element in a continuous face shape so as to protect the switching element by overlaying the same;  
on the insulation film where the switching element is protected, forming a convex/concave structure on a surface facing the first substrate;  
forming a reflection electrode on the insulation film and then providing on a surface, facing the first substrate, of the reflection electrode a shape in which the convex/concave structure of the insulation film is reflected; and  
filling a liquid crystal layer in a space between the transparent electrode of the first substrate and the reflection electrode of the second substrate.

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34. (New) The method of producing the LCD apparatus as claimed in Claim 33, wherein the insulation film is laminated as a single layer structure and the convex/concave structure is formed as a part of the surface, facing the first substrate, of the insulation film.

35. (New) The method of producing the LCD apparatus as claimed in Claim 34, wherein a protrusion of the convex/concave structure is formed as a continuous smooth shape.

36. (New) The method of producing the LCD apparatus as claimed in Claim 34, wherein a plurality of protrusions of the convex/concave structure and a plurality of indentations indented downward from the protrusions are formed and arranged irregularly by using a mask pattern.

37. (New) The method of producing the LCD apparatus as claimed in Claim 36, wherein the protrusions are formed and arranged by using the mask pattern having an island-shaped or line-shaped pattern.

38. (New) The method of producing the LCD apparatus as claimed in Claim, 36, wherein the indentations are formed and arranged 'by using the mask pattern having a hole-shaped or line-shaped pattern.

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39. (New) The method of producing the LCD apparatus as claimed in Claim 36, wherein the protrusions of the convex/concave structure are formed and arranged irregularly using the mask pattern having the island-shaped or line-shaped pattern, based on one pixel or more than one pixels as a unit.

40. (New) The method of producing the LCD apparatus as claimed in Claim 36, wherein the indentations of the convex concave structure are formed and arranged irregularly using the mask pattern having the hole-shaped or line-shaped pattern, based on one pixel or more than one pixels as a unit.

41. (New) The method of producing the LCD apparatus as claimed in Claim 33, wherein the insulation film is laminated as a single layer structure and the convex/concave structure is formed on the surface, facing the first substrate, of the insulation film by using a separate insulation film.

42. (New) The method of producing the LCD apparatus as claimed in Claim 41, wherein a protrusion of the convex/concave structure is formed as a continuous smooth shape.

43. (New) The method of producing the LCD apparatus as claimed in Claim 42, wherein a plurality of protrusions of the convex/concave structure and a plurality of indentations indented downward from the protrusions are formed and arranged irregularly by using a mask pattern.

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44. (New) The method of producing the LCD apparatus as claimed in Claim 41, wherein the protrusions are formed and arranged by using the mask pattern having an island-shaped or line-shaped pattern.

45. (New) The method of producing the LCD apparatus as claimed in Claim 41, wherein the indentations are formed and arranged by using the mask pattern having a hole-shaped or line-shaped pattern.

46. (New) The method of producing the LCD apparatus as claimed in Claim 41, wherein the protrusions of the convex/concave structure are formed and arranged irregularly using the mask pattern having the island-shaped or line-shaped pattern, based on one pixel or more than one pixels as a unit.

47. (New) The method of producing the LCD apparatus as claimed in Claim 41, wherein the indentations of the convex/concave structure are formed and arranged irregularly using the mask pattern having the hole-shaped or line-shaped pattern, based on one pixel or more than one pixels as a unit.

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*Amend.* 48. (New) The method of producing LCD apparatus as claimed in Claim 33, wherein the insulation film is formed of a transparent photosensitive material where a back light is able to pass through.

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